Claims

1. Olefin polymer composition comprising (by weight, unless otherwise specified):

   A) 60 - 95% of a propylene homopolymer, or a copoloymer of propylene containing 3% or less of ethylene or C_4-C_{10} α-olefin(s) or of combinations thereof, said homopolymer or copolymer having a Polydispersity Index (P.I.) value of from 4.6 to 10 and a content of isotactic pentads (mmmm), measured by ^{13}C NMR on the fraction insoluble in xylene at 25 °C, higher than 98 molar;

   B) 5 - 40% of a copolymer of ethylene containing from 40% to 70% of propylene or C_4-C_{10} α-olefin(s) or of combinations thereof, and optionally minor proportions of a diene;

   said composition having a Temperature Rising Elution Fractionation (TREF) profile, obtained by fractionation in xylene and collection of fractions at temperatures of 40 °C, 80°C and 90 °C, in which the ethylene content Y of the fraction collected at 90 °C satisfies the following relation (I):

$$Y \leq -0.8 + 0.035X + 0.0091X^2$$

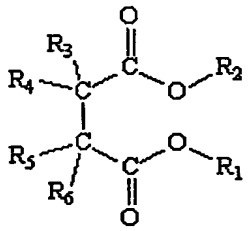
   wherein X is the ethylene content of the fraction collected at 40 °C and both X and Y are expressed in percent by weight, and a value of intrinsic viscosity [η] of the fraction soluble in xylene at 25 °C of from 1.8 to 4.2 dl/g.

2. The composition of claim 1, wherein component (A) has a molecular weight distribution, expressed by the Mw/Mn ratio, measured by GPC, equal to or higher than 7 and a value of Mz/Mw ratio, measured by GPC, equal to or higher than 3.6.

3. Polymerization process for preparing the olefin polymer composition of claim 1, comprising at least two sequential steps, wherein components (A) and (B) are prepared in separate subsequent steps, operating in each step, except the first step, in the presence of the polymer formed and the catalyst used in the preceding step.

4. The polymerization process of claim 3, wherein the polymerization catalyst is a Ziegler -Natta catalyst comprising a solid catalyst component comprising:

   a) Mg, Ti and halogen and an electron donor selected from succinates, preferably from succinates of formula (I) below:



wherein the radicals R_1 and R_2, equal to, or different from, each other are a C_1-C_{20} linear or branched alkyl, alkenyl, cycloalkyl, aryl, arylalkyl or alkylaryl group, optionally containing heteroatoms; the radicals R_3 to R_6 equal to, or different from, each other, are hydrogen or a C_1-C_{20} linear or branched alkyl, alkenyl, cycloalkyl, aryl, arylalkyl or alkylaryl group, optionally containing heteroatoms, and the radicals R_3 to R_6 which are joined to the same carbon atom can be linked together to form a cycle; with the proviso that when R_3 to R_5 are contemporaneously hydrogen R_6 is a radical selected from primary branched, secondary or tertiary alkyl groups, cycloalkyl, aryl, arylalkyl or alkylaryl groups having from 3 to 20 carbon atoms, or a linear alkyl group having at least four carbon atoms optionally containing heteroatoms;

b) an alkylaluminum compound and, optionally,

c) one or more electron-donor compounds (external donor).